EchoSafe
Level Measurement

FM Agency Approval

EchoSafe is an approved explosion proof sensor through Factory Mutual (FM) which meets the requirements of the National Electrical Code. FM is a third party agency that provides industry approvals for safety and insurance purposes. EchoSafe has been granted the following explosion proof approvals:

Class I Div. I: Groups A, B, C, D
Class II Div. I: Groups E, F, G
Class III Div. I

The following standards apply for EchoSafe:

Electrical and Electronic Test, Measuring and Process Control Equipment - Class 3810, 2005
Electrical Equipment or Use in Hazardous (Classified) Locations, General Requirements - Class 3600, 1998
Explosion Proof Electrical Equipment, General Requirements - Class 3615, 2006
Enclosures for Electrical Equipment - ANSI/NEMA 250, 2003

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EchoSafe Success

EchoSafe is installed on a diesel storage tank for backup generators in a municipal waste water treatment facility. Because of the environment, this application is classified class I division 1. Using the 4 - 20 mA analog output, EchoSafe is safely giving the facilities maintenance personnel an accurate reading of available diesel fuel. EchoSafe helps to ensure that the facility will always have available fuel in case of a power failure. EchoSafe's compact size paired with its ease of set-up and installation makes it a perfect fit for this hazardous environment. EchoSafe is your safe choice for hazardous environment installations.

About Flowline - *We Do <u>Your</u> Level Best*

Flowline supplies industrial manufacturers and municipalities with quality tank inventory monitoring, automation and safety solutions for corrosive liquids.

Demand for chemical storage and feed systems has grown steadily since the 1960's, fueled by industrial automation, municipal water treatment and environmental regulations. As a result, Flowline introduced the first family of thermoplastic liquid level sensor, installation and control technologies for water-based chemicals.

Our core competency is non-contact level measurement using our patented digital signal processing technology that makes level simple. Flowline primarily serves the water, wastewater, chemical, health and electronics industries. We enable users to best manage their liquid assets with dependable level solutions that reduce fluid handling costs.

Design or process engineering, system integrator, original equipment and maintenance users are well served through our global network of technical distribution partners. Together, we deliver innovative solutions that automate containment processes, ensure workplace safety and protect our environment.

Flowline introduces EchoSafe®, an ultrasonic level transmitter designed for hazardous applications where an agency certified sensor is needed. Designed for bulk storage applications, replacing contact level technology, EchoSafe is your safe level solution.

Flowline Online Sales
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FLOWLINE
We Do Your Level Best

How Does It Benefit Me?

Made for hazardous environment
- Compact design allows for installation in applications with limited mounting options and space
- Minimum 8" dead band allows for maximum fill of media
- FM agency approval for hazardous areas

Non-contact benefits in a XP package
- Higher accuracy with no moving parts
- Measures corrosive liquid media in hazardous areas without affecting product performance
- Advanced Digital Signal Processing (DSP) provides advanced surface imaging in applications with obstacles in the beam width

Low cost of ownership
- Economical to purchase and install
- Doesn't require adjustments once initial configuration is complete
- No moving or exposed parts, virtually maintenance free

Fast and easy configuration
- 3 push button set-up allows for quick and accurate configuration
- 6 digit LCD gives a reliable display of sensor and tank values
- Diagnostic capabilities for sensor placement, making installation simple

Flowline introduces EchoSafe, an ultrasonic level transmitter designed for hazardous applications, where an agency certified sensor is needed. A 2-wire (loop-powered) ultrasonic level transmitter that provides non-contact level measurement up to 10 m (32.8') in hazardous (classified) bulk storage, day tank, waste treatment and sump applications, and is well suited for challenging corrosive, slurry or waste media.

EchoSafe utilizes Flowline's patented digital surface processing (DSP) technology, enabling surface imaging that provides adaptive technology for obstructions that may enter the beam column. This allows for greater dependability and accuracy in installations where obstructions below the sensor can't be avoided. Additionally the adaptive signal processing intelligence continuously optimizes sensor power, output filtering and environmental noise rejection

How Does EchoSafe Work?

DSP Technology
- Allows measurement in limited space
- 3" beam width column
- Minimum 8" dead band for maximum fill capacity
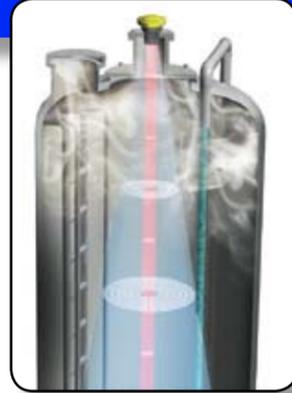
Compact Enclosure
- Viewing window
- Dual 1/2" conduit connections
- 2" NPT thread

Level Measurement
- 4 - 20 mA output
- Reversible output signals

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- Class III Div. I

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Push Button Configuration
- Fast, accurate and simple configuration
- Documented configuration control

Corrosive Liquid Media
- Rugged PVDF transducer
- NEMA 4 housing
- Potted for additional durability

Where Can I Use It?

EchoSafe's design and performance capabilities position it well for applications focused on hazardous level storage and automation:
- Industrial water treatment / make-up
- Wastewater management / processing
- Hazardous bulk storage
- Chemical storage, process and waste

Potential Applications

Municipal Water / Waste Water
- Combined sewer / storm drain lift stations
- Headworks
- Screen level differentials
- Gravity thickener tanks
- Fuel storage for diesel generators

Petrochemical
- Refinery / industrial waste treatment processing and storage
- Bio-diesel process monitoring and bulk storage
- Feedstock storage tanks
- Resin storage tanks
- Chemical storage of fertilizers, herbicides, pesticides

Manufacturing
- Automotive paint and dye storage, automation and waste
- Pulp and paper process storage

Mining
- Water, chemical and waste storage tanks
- Storm water run off / retention

Chemical
- Chemical storage tanks
- Chemical waste sumps

Health
- Pharmaceutical waste sumps / storage
- Laboratory waste sumps / storage